

Remarks

Applicant respectfully requests reconsideration of this application as amended.

No claims have been amended. No claims have been canceled. Therefore, claims 1-20 are now presented for examination.

In a Final Office Action, filed June 7, 2004, claims 1-11, 13-15 and 19-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over MacDonald (U.S. Patent No. 6,295,574) in view of Simpson (EP0742522A).

MacDonald discloses a CPU that includes a real time interrupt (RTI) control unit configured to control real time interrupt capabilities of the CPU. Upon receipt of a real time interrupt signal via an RTI pin, the RTI control unit interrupts the currently executing instructions at an instruction boundary in order to execute the interrupt service routine. See MacDonald at Abstract ll. 1-6.

However, MacDonald does not disclose or suggest determining whether a real-time interrupt has a higher priority than a non-real time operation being processed at the CPU, and processing the real-time data if the real-time interrupt has a higher priority than the non-real time operation. In fact, the Examiner has admitted that MacDonald fails to teach of a step or means for determining the real time interrupts among the interrupts (real and non-real time). See Final Office Action at page 3, paragraph 1.

Simpson discloses control circuitry for, and a method of controlling, multiple priority level interrupt requests to a microprocessor in which output circuitry for outputting an interrupt identifier is operable only in response to an interrupt signal having a higher priority status than any currently executing interrupt process. See Simpson at

Abstract. Simpson further discloses arbiter circuitry connected to storage circuitry for determining the priority status for each interrupt signal. See Simpson at col. 1, ll. 46-48.

Claim 1 of the present application recites a method that includes determining whether a real-time interrupt has a higher priority than a non-real time operation being processed at a CPU, and processing the real-time data if the real-time interrupt has a higher priority than the non-real time operation. Applicant submits that Simpson does not disclose or suggest such a feature. Even though Simpson discloses determining the priority of an interrupt, Simpson still fails to disclose determining whether a real-time interrupt has a higher priority than a non-real time operation being processed at the CPU, and processing the real-time data if the real-time interrupt has a higher priority than the non-real time operation. Determining the priority of an interrupt is not equivalent to determining whether a real-time interrupt has a higher priority than a non-real time operation being processed at a CPU.

Similarly, since MacDonald and Simpson do not disclose or suggest a method that includes determining whether a real-time interrupt has a higher priority than a non-real time operation being processed at a CPU, and processing the real-time data if the real-time interrupt has a higher priority than the non-real time operation, any combination of MacDonald and Simpson would also not disclose or suggest such a feature. Accordingly, claim 1 is patentable over MacDonald in view of Simpson.

Claims 2-6, and 17 depend from claim 1 and include additional features. Thus, claims 2-6, and 17 are also patentable over MacDonald in view of Simpson.

Claim 7 recites a system that includes a central processing unit (CPU), coupled to a bus, to generate a real-time interrupt upon receiving real-time analog data and to

process data associated with the real-time interrupt if the real-time interrupt has a higher priority than a non-real-time operation currently being processed.

Thus, for the reasons described above with respect to claim 1, claim 7 is also patentable over MacDonald in view of Simpson. Since claims 8-12, 19, and 20 depend from claim 7 and include additional features, claims 8-12, 19, and 20 are also patentable over MacDonald in view of Simpson.

Claim 13 recites a central processing unit that includes determining the relative priority between real-time interrupts and non-real time operations being processed. Thus, for the reasons described above with respect to claim 1, claim 13 is also patentable over MacDonald in view of Simpson. Since claims 14-16, and 18 depend from claim 13 and include additional features, claims 14-16, and 18 are also patentable over MacDonald in view of Simpson.

Claims 12, 16-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over MacDonald (U.S. Patent No. 6,295,574) in view of Simpson (EP0742522A), further in view of Williams et al. (U.S. Patent No. 5,764,582).

Applicant submits that the present claims are patentable over any combination of MacDonald, Simpson, and Williams. Williams discloses a bus that is provided to communicate data between a digital signal processor and a hardware interface, which includes digital-to-analog and analog-to-digital converters. Inputs and outputs for the various multimedia end devices are connected through the digital-to-analog and analog-to-digital converter. However, Williams does not disclose or suggest a method that includes determining whether a real-time interrupt has a higher priority than a non-real

time operation being processed at a CPU, and processing the real-time data if the real-time interrupt has a higher priority than the non-real time operation.

As discussed above, MacDonald and Simpson do not disclose or suggest such a feature. Since MacDonald, Simpson and Williams do not disclose or suggest a method that includes determining whether a real-time interrupt has a higher priority than a non-real time operation being processed at the CPU, and processing the real-time data if the real-time interrupt has a higher priority than the non-real time operation, any combination of MacDonald, Simpson and Williams also would not disclose or suggest determining whether a real-time interrupt has a higher priority than a non-real time operation being processed at the CPU, and processing the real-time data if the real-time interrupt has a higher priority than the non-real time operation. Therefore, the present claims are patentable over MacDonald and Simpson even in view of Williams.

Applicant respectfully submits that the rejections have been overcome, and that the claims are in condition for allowance. Accordingly, applicant respectfully requests the rejections be withdrawn and the claims be allowed.

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP



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Mark L. Watson
Reg. No. 46,322

12400 Wilshire Boulevard
7th Floor
Los Angeles, California 90025-1026
(303) 740-1980